

Encyclopedic Dictionary of
ELECTRONICS
and
NUCLEAR ENGINEERING

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ical phenomena associated
function, and life processes

capillary effects in liquids
of an electric current or
ge. Used in the measure-
ts of electricity or on very
ial, as in the capillary

form of Electrocapil-

f a mercury-electrolytic
characteristic of applied
e tension.

strument which measures
rent or voltage waveform
of the heart muscles. The
d an electrocardiogram
allistocardiographic jerk-

notion of particles in a
the influence of an applied

An electrochemical equi-
pound, radical, or ion is
ce involved in a specified
luring the passage of a
ricity, such as a faraday,
b. (AIEE) See *Coulomb*

n. The effect of increased
the setting up of a back
electrolytic cell as a result of
electrodes (chiefly due to
lated bubbles of hydrogen
electrodes. See *Electrolytic*

: Recording, electrochemical.
electromotive series.

electric valve consisting
a solution or compound,
hich current flows more
an in the other direction,
ption is accompanied by
See *Rectifier electrolytic*.

ranch of science and
th reciprocal transforma-
ric energy. (AIEE)

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Electrochronograph. An electromagnetic recorder in
circuit with an electrically driven clock. See *Chrono-
graph*.

Electroculture. Stimulation of growth, flowering, or
seeding of plants by electrical means. (AIEE)

Electrocution. The destruction of life by means of
electric current. (AIEE)

ElectroData computer. See *Datatron*.

Electrode. 1. A conductor, but not necessarily a metal,
through which a current enters or leaves one material
or medium and enters another; i.e., as an electrolytic
cell, arc, furnace, vacuum tube, gaseous discharge
tube, or any conductor of the nonmetallic class.
Specifically, in an electrolytic cell, an electrode is a
conductor of the metallic-conductor class, at which
there is a change from conduction by electrons to
conduction by ions or colloidal particles. (AIEE)

2. Of a semiconductor device, an element that
performs one or more of the functions of emitting or
collecting electrons or holes, or of controlling their
movements by an electric field. (AIEE/IRE) See
Accelerating anode; *Anode*; *Applicator electrodes*;
Backplate; *Base electrode*; *Bipolar electrode*;
Cathode; *Collector*; *Color-selecting electrode sys-
tem*; *Composite electrode*; *Continuous electrode*;
Control electrode; *Control grid*; *Convergence elec-
trode*; *Coplanar electrodes*; *De-celerating elec-
trode*; *Deflecting electrode*; *Deflecting electrode,
radial*; *Dynode*; *Filament*; *Focusing electrode*; *Grid*;
Ground electrode; *Guard ring*; *Half cell*, *quinhy-
dron electrode*; *Ignitor electrode*; *Intensifier elec-
trode*; *Keep-alive electrode*; *Modulating electrode*;
Negative electrode; *Pad electrode*; *Plate*; *Point elec-
trode*; *Positive electrode*; *Screengrid*; *Selfelectrode*;
Signal electrode; *Sounding electrode*; *Starting elec-
trode*; *Starter (gas tubes)*; *Suppressor grid*; *Target*;
Welding electrode entries.

Electrode admittance. Of the j th electrode of an
 n -electrode electron tube, the short-circuit driving-
point admittance between the j th electrode and the
reference point measured directly at the j th elec-
trode. *Note*: To be able to determine the intrinsic
electronic merit of an electron tube, the driving-point
and transfer admittances must be defined as if
measured directly at the electrodes inside the tube.
The definitions of electrode admittance and electrode
impedance are used for this purpose. (IRE) See
Electron tube admittance.

Electrode, calomel. See *Half-cell, calomel*.

Electrode capacitance. Of an n -terminal electron
tube, the capacitance determined from the short-

circuit driving-point admittance at that electrode.
See *Electron tube admittance*.

Electrode characteristic. 1. In an electron tube, a
relation between the electrode voltage and the
current to an electrode, all other electrode voltages
being maintained constant. (IRE) See *Electron tube
static characteristics*; *Electron tube dynamic charac-
teristics*; *Electron tube incremental coefficients*. 2. In
a semiconductor, see *Transistor common base charac-
teristics*; *Transistor common collector characteristics*;
Transistor common emitter characteristics.

Electrode color-selecting system. See *Color-selecting elec-
trode system*; *Focusing and switching grille*.

Electrode concentration cell. A concentration cell,
which has an electrolyte and electrodes manufactured
from the same (metal) element, but with differing
degrees of concentration. An example is the use of
amalgams in an electric cell structure. See *Concen-
tration cell*.

Electrode conductance. Symbol g_e , k_e . The real part
of the electrode admittance, q.v. (IRE)

Electrode current. Of electron tubes, the net current
from an electrode into the interelectrode space.
Note: The terms cathode current, grid current, anode
current, plate current, and so forth, are used to
designate electrode currents for these specific
electrodes. Unless otherwise stated, an electrode
current is measured at the available terminal. (IRE)
See the following three definitions.

Electrode current, average. In an electron tube, the
value obtained by integrating the instantaneous
electrode current over an averaging time and dividing
by the averaging time.

Electrode-current averaging time. In an electron
tube, the time interval over which the current is
averaged in defining the operating capabilities of
the electrode (for instance, one period of the signal).

Electrode dark current. Of a phototube or camera
tube, the electrode current that flows when there is
no radiant flux incident on the photocathode, under
specified conditions of radiation shielding. *Note*:
Since dark current may change considerably with
temperature, temperature should be specified.

Electrode dissipation. The power dissipated in the
form of heat by an electrode as a result of electron
and/or ion bombardment and radiation from other
electrodes.

Electrode drop. The voltage drop in the electrode due
to its resistance. (AIEE)